RT² Profiler PCR Array (Rotor-Gene® Format)

Mouse Epigenetic Chromatin Remodeling Factors

Cat. no. 330231 PAMM-086ZR

For pathway expression analysis

Format	For use with the following real-time cyclers
RT² Profiler PCR Array, Format R	Rotor-Gene Q, other Rotor-Gene cyclers

Description

The Mouse Epigenetic Chromatin Remodeling Factors RT² Profiler PCR Array profiles the expression of 84 key genes involved in recognizing chromatin modifications and remodeling chromatin to regulate chromatin accessibility and therefore gene expression. Many of these genes contain the chromodomain responsible for ATP hydrolysis-dependent chromatin reorganization. Chromodomain proteins either activate or repress transcription depending on their additional domains and the proteins they recruit. Chromobox domain proteins recognize methylated histone lysine residues and mediate transcriptional repression. Bromodomains and plant homeodomains (PHD) respectively bind acetylated and methylated histone lysine residues and seem to work cooperatively. Other genes on this array, such as the Inhibitor of Growth (ING) family, associate with and modulate histone acetyltransferase and deacetylase complex activity, while still others directly bind methylated CpG DNA. During the development of stem cells to terminally differentiated cells, altered expression occurs for many of these genes to control chromatin dynamics. These genes also exhibit different expression profiles in tumor cells relative to normal cells, suggesting a role for chromatin modification and remodeling in oncogenesis. Using real-time PCR, you can easily and reliably analyze the expression of a focused panel of genes involved in epigenetic chromatin remodeling with this array.

For further details, consult the *RT² Profiler PCR Array Handbook*.

Shipping and storage

RT² Profiler PCR Arrays in the Rotor-Gene format are shipped at ambient temperature, on dry ice, or blue ice packs depending on destination and accompanying products.

For long term storage, keep plates at –20°C.

Note: Ensure that you have the correct RT² Profiler PCR Array format for your real-time cycler (see table above).

Note: Open the package and store the products appropriately immediately on receipt.

Array layout

The 96 real-time assays in the Rotor-Gene format are located in wells 1–96 of the Rotor-Disc™ (plate A1–A12=Rotor-Disc 1–12, plate B1–B12=Rotor-Disc 13–24, etc.). To maintain data analysis compatibility, wells 97–100 do not contain real-time assays but will contain master mix to account for weight balance.

Gene table: RT² Profiler PCR Array

Position	UniGene	GenBank	Symbol	Description
A01	Mm.22478	NM_001080819	Arid1a	AT rich interactive domain 1A (SWI-like)
A02	Mm.17166	NM_175251	Arid2	AT rich interactive domain 2 (ARID, RFX-like)
A03	Mm.330677	NM_001039939	Asxl1	Additional sex combs like 1 (Drosophila)
A04	Mm.485468	NM_013815	Baz1a	Bromodomain adjacent to zinc finger domain 1A
A05	Mm.40331	NM_011714	Baz1b	Bromodomain adjacent to zinc finger domain, 1B
A06	Mm.252213	NM_054078	Baz2a	Bromodomain adjacent to zinc finger domain, 2A
A07	Mm.228071	NM_001001182	Baz2b	Bromodomain adjacent to zinc finger domain, 2B
A08	Mm.289584	NM_007552	Bmi1	Bmi1 polycomb ring finger oncogene
A09	Mm.343986	NM_176850	Bptf	Bromodomain PHD finger transcription factor
A10	Mm.254438	NM_001033274	Brd1	Bromodomain containing 1
A11	Mm.3444	NM_010238	Brd2	Bromodomain containing 2
A12	Mm.28721	NM_023336	Brd3	Bromodomain containing 3
B01	Mm.253518	NM_198094	Brd4	Bromodomain containing 4
B02	Mm.5400	NM_012047	Brd7	Bromodomain containing 7
B03	Mm.411740	NM_030147	Brd8	Bromodomain containing 8
B04	Mm.182836	NM_054054	Brdt	Bromodomain, testis-specific
B05	Mm.356059	NM_030178	Brpf1	Bromodomain and PHD finger containing, 1
B06	Mm.291877	NM_001081315	Brpf3	Bromodomain and PHD finger containing, 3
B07	Mm.240871	NM_145125	Brwd1	Bromodomain and WD repeat domain containing 1
B08	Mm.100112	NM_001081477	Brwd3	Bromodomain and WD repeat domain containing 3
B09	Mm.29055	NM_007622	Cbx1	Chromobox homolog 1 (Drosophila HP1 beta)
B10	Mm.14547	NM_007623	Cbx2	Chromobox homolog 2 (Drosophila Pc class)
B11	Mm.280968	NM_007624	Cbx3	Chromobox homolog 3 (Drosophila HP1 gamma)
B12	Mm.268070	NM_007625	Cbx4	Chromobox homolog 4 (Drosophila Pc class)
C01	Mm.262059	NM_007626	Cbx5	Chromobox homolog 5 (Drosophila HP1a)
C02	Mm.38438	NM_028763	Cbx6	Chromobox homolog 6
C03	Mm.323442	NM_144811	Cbx7	Chromobox homolog 7
C04	Mm.99953	NM_013926	Cbx8	Chromobox homolog 8 (Drosophila Pc class)
C05	Mm.29002	NM_009881	Cdyl	Chromodomain protein, Y chromosome-like
C06	Mm.482911	NM_029441	Cdyl2	Chromodomain protein, Y chromosome-like 2
C07	Mm.8137	NM_007690	Chd1	Chromodomain helicase DNA binding protein 1
C08	Mm.34955	NM_001081345	Chd2	Chromodomain helicase DNA binding protein 2
C09	Mm.178246	NM_146019	Chd3	Chromodomain helicase DNA binding protein 3
C10	Mm.333388	NM_145979	Chd4	Chromodomain helicase DNA binding protein 4
C11	Mm.40192	NM_001081376	Chd5	Chromodomain helicase DNA binding protein 5
C12	Mm.122738	NM_173368	Chd6	Chromodomain helicase DNA binding protein 6
D01	Mm.138792	NM_001081417	Chd7	Chromodomain helicase DNA binding protein 7
D02	Mm.289934	NM_201637	Chd8	Chromodomain helicase DNA binding protein 8
D03	Mm.100615	NM_177224	Chd9	Chromodomain helicase DNA binding protein 9
D04	Mm.7286	NM_013502	Ctbp1	C-terminal binding protein 1
D05	Mm.246240	NM_009980	Ctbp2	C-terminal binding protein 2
D06	Mm.269474	NM_181322	Ctcf	CCCTC-binding factor
D07	Mm.380914	NM_021876	Eed	Embryonic ectoderm development
D08	Mm.246688	NM_007971	Ezh2	Enhancer of zeste homolog 2 (Drosophila)
D09	Mm.24570	NM_172162	Hinfp	Histone H4 transcription factor
D10	Mm.25709	NM_011919	Ing1	Inhibitor of growth family, member 1
D11	Mm.430733	NM_023503	Ing2	Inhibitor of growth family, member 2
D12	Mm.39999	NM_023626	Ing3	Inhibitor of growth family, member 3
E01	Mm.262547	NM_133345	Ing4	Inhibitor of growth family, member 4
E02	Mm.64065	NM_025454	Ing5	Inhibitor of growth family, member 5
E03	Mm.330496	NM_026574	Ino80	INO80 homolog (S. cerevisiae)
E04	Mm.22522	NM_013594	Mbd1	Methyl-CpG binding domain protein 1
E05	Mm.7142	NM_013595	Mbd3	Methyl-CpG binding domain protein 3
E06	Mm.259308	NM_010774	Mbd4	Methyl-CpG binding domain protein 4
E07	Mm.131408	NM_010788	Mecp2	Methyl CpG binding protein 2
E08	Mm.212577	NM_054081	Mta1	Metastasis associated 1
E09	Mm.25339	NM_011842	Mta2	Metastasis-associated gene family, member 2

Position	UniGene	GenBank	Symbol	Description
E10	Mm.336898	NM_008668	Nab2	Ngfi-A binding protein 2
E11	Mm.12964	NM_008739	Nsd1	Nuclear receptor-binding SET-domain protein 1
E12	Mm.12261	NM_197992	Pcgf1	Polycomb group ring finger 1
F01	Mm.2418	NM_009545	Pcgf2	Polycomb group ring finger 2
F02	Mm.261218	NM_172716	Pcgf3	Polycomb group ring finger 3
F03	Mm.259180	NM_029508	Pcgf5	Polycomb group ring finger 5
F04	Mm.35413	NM_027654	Pcgf6	Polycomb group ring finger 6
F05	Mm.6822	NM_007905	Phc1	Polyhomeotic-like 1 (Drosophila)
F06	Mm.259103	NM_018774	Phc2	Polyhomeotic-like 2 (Drosophila)
F07	Mm.480590	NM_009343	Phf1	PHD finger protein 1
F08	Mm.25582	NM_172705	Phf13	PHD finger protein 13
F09	Mm.212554	NM_011078	Phf2	PHD finger protein 2
F10	Mm.101022	NM_001081166	Phf21b	PHD finger protein 21B
F11	Mm.194486	NM_001081080	Phf3	PHD finger protein 3
F12	Mm.271715	NM_026737	Phf5a	PHD finger protein 5A
G01	Mm.26870	NM_027642	Phf6	PHD finger protein 6
G02	Mm.5348	NM_027949	Phf7	PHD finger protein 7
G03	Mm.20343	NM_009066	Ring1	Ring finger protein 1
G04	Mm.482250	NM_011277	Rnf2	Ring finger protein 2
G05	Mm.313303	NM_011416	Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2
G06	Mm.286593	NM_011417	Smarca4	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
G07	Mm.246803	NM_053124	Smarca5	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5
G08	Mm.299906	NM_019763	Spen	SPEN homolog, transcriptional regulator (Drosophila)
G09	Mm.283410	NM_199196	Suz12	Suppressor of zeste 12 homolog (Drosophila)
G10	Mm.314056	NM_009054	Trim27	Tripartite motif-containing 27
G11	Mm.229323	NM_172255	Wdr11	WD repeat domain 11
G12	Mm.227598	NM_027230	Zmynd8	Zinc finger, MYND-type containing 8
H01	Mm.328431	NM_007393	Actb	Actin, beta
H02	Mm.163	NM_009735	B2m	Beta-2 microglobulin
H03	Mm.343110	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H04	Mm.3317	NM_010368	Gusb	Glucuronidase, beta
H05	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1
H06	N/A	SA_00106	MGDC	Mouse Genomic DNA Contamination
H07	N/A	SA_00104	RTC	Reverse Transcription Control
H08	N/A	SA_00104	RTC	Reverse Transcription Control
H09	N/A	SA_00104	RTC	Reverse Transcription Control
H10	N/A	SA_00103	PPC	Positive PCR Control
H11	N/A	SA_00103	PPC	Positive PCR Control
H12	N/A	SA_00103	PPC	Positive PCR Control

Related products

For optimal performance, RT² Profiler PCR Arrays should be used together with the RT² First Strand Kit for cDNA synthesis and RT² SYBR® Green qPCR Mastermixes for PCR.

Product	Contents	Cat. no.
RT² First Strand Kit (12)	Enzymes and reagents for cDNA synthesis	330401
RT² SYBR Green ROX™ FAST Mastermix (2)*	For 2 x 96 assays in 96-well plates; suitable for use with the Rotor-Gene Q and other Rotor-Gene cyclers	330620

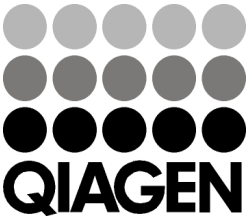
* Larger kit sizes available; please inquire.

RT² Profiler PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

www.qiagen.com

Australia ▪ 1-800-243-800
Austria ▪ 0800/281010
Belgium ▪ 0800-79612
Brazil ▪ 0800-557779
Canada ▪ 800-572-9613
China ▪ 8621-3865-3865
Denmark ▪ 80-885945
Finland ▪ 0800-914416
France ▪ 01-60-920-930
Germany ▪ 02103-29-12000
Hong Kong ▪ 800 933 965
Ireland ▪ 1800 555 049
Italy ▪ 800-787980
Japan ▪ 03-6890-7300
Korea (South) ▪ 080-000-7145
Luxembourg ▪ 8002 2076
Mexico ▪ 01-800-7742-436
The Netherlands ▪ 0800 0229592
Norway ▪ 800-18859
Singapore ▪ 1800-742-4368
Spain ▪ 91-630-7050
Sweden ▪ 020-790282
Switzerland ▪ 055-254-22-11
UK ▪ 01293-422-911
USA ▪ 800-426-8157



Sample & Assay Technologies